What is claimed is:

1. A method for making a laser device, comprising:

forming a first mirror on a front-side of a substrate;

forming an active region on the first mirror;

forming a second mirror on the active region;

forming a first dielectric layer on the second mirror;

forming a trench along a perimeter of a first area defining the laser device;

oxidizing a layer in the second mirror to form an aperture for the laser device;

forming a second dielectric on the first dielectric and in the trench;

etching the first and second dielectric layers from a second area on the second mirror;

forming a first layer of electrical contact material on the second area on the second mirror; and

forming a second layer of electrical contact material bridging the trench and having electrical contact with the first layer of electrical contact material.

2. The method of claim 1, further comprising forming a third layer of electrical contact material on a back-side of the substrate.

3. The method of claim 2, further comprising:

after the forming the trench, forming a mask on a third area situated within the first area;

implanting with ions a portion of the second mirror, active region and first mirror not covered by the mask; and

removing the mask.

4. The method of claim 3, wherein the aperture is a current confining aperture.

5. The method of claim 1, further comprising:

thinning the substrate by removing material form a backside of the substrate; and

forming a third layer of electrical contact material on a back-side of the substrate.

6. A method for making a laser device, comprising:

forming a first mirror on a front-side of a substrate;

forming an active region on the first mirror;

forming a second mirror on the active region;

forming a first dielectric layer on the second mirror;

forming a trench along a perimeter of a first area defining the laser device;

oxidizing a layer in the second mirror to form an aperture for the laser device;

forming a second dielectric on the first dielectric and in the trench;

etching the first and second dielectric layers from a second area on the second mirror;

forming a first layer of electrical contact material on the second area on the second mirror; and

filling the trench with a material;

planarizng the material in the trench to a level matching the level of the second dielectric layer outside the trench; and

forming a second layer of electrical contact material on the planarized material and the second dielectric layer, having electrical contact with the first layer of electrical contact material to

provide an electrical connection from the first layer of electrical contact material to a location beyond the outside perimeter of the trench.

7. The method of claim 6, further comprising forming a third layer of electrical contact material on a back-side of the substrate.

8. The method of claim 7, further comprising:

after the forming the trench, forming a mask on a third area situated within the first area;

implanting with ions a portion of the second mirror, active region and first mirror not covered by the mask; and

removing the mask.

9. The method of claim 8, wherein the aperture is a current confining aperture.

10. The method of claim 6, further comprising:

thinning the substrate by removing material form a backside of the substrate; and

forming a third layer of electrical contact material on a back-side of the substrate.

11. A method for making a laser device, comprising:

forming a first mirror on a front-side of a substrate;

forming an intra cavity contact layer on the first mirror;

forming an active region on the intra cavity contact layer mirror;

forming a second mirror on the active region;

forming a first dielectric layer on the second mirror;

forming a trench along a perimeter of a first area defining the laser device;

oxidizing a layer in the second mirror to form an aperture for the laser device;

forming a second dielectric on the first dielectric and in the trench;

etching the first and second dielectric layers from a second area on the second mirror;

forming a first layer of electrical contact material on the second area on the second mirror;

forming a second layer of electrical contact material bridging the trench and having electrical contact with the first layer of electrical contact material;

etching a portion of the first and second dielectric layers, the second mirror and active region to expose a third area on the intra-cavity contact layer; and

forming a third layer of contact material on the third area of the intra-cavity contact layer.

12. The method of claim 11, further comprising:

after the forming the trench, forming a mask on a third area situated within the first area;

implanting with ions a portion of the second mirror, active region and first mirror not covered by the mask; and

removing the mask.

13. The method of claim 12, wherein the aperture is a current confining aperture.

14. A method for making a laser device, comprising:

forming a first mirror on a front-side of a substrate;

forming an active region on the first mirror;

forming a second mirror on the active region;

forming a first dielectric layer on the second mirror;

forming a trench along a perimeter of a first area defining the laser device;

oxidizing a layer in the second mirror to form an aperture for the laser device;

forming a second dielectric on the first dielectric and in the trench;

etching the first and second dielectric layers from a second area on the second mirror;

forming a first layer of electrical contact material on the second area on the second mirror; and

filling the trench with a material;

planarizng the material in the trench to a level matching the level of the second dielectric layer outside the trench;

forming a second layer of electrical contact material on the planarized material and the second dielectric layer, having electrical contact with the first layer of electrical contact material to provide an electrical connection from the first layer of electrical contact material to a location beyond the outside perimeter of the trench;

etching a portion of the first and second dielectric layers, the second mirror and active region to expose a third area on the intra-cavity contact layer; and

forming a third layer of contact material on the third area of the intra-cavity contact layer.

15. The method of claim 14, further comprising:

after the forming the trench, forming a mask on a third area situated within the first area;

implanting with ions a portion of the second mirror, active region and first mirror not covered by the mask; and

removing the mask.

16. The method of claim 15, wherein the aperture is a current confining aperture.

17. A method for making a laser device, comprising:

forming a first mirror on a front-side of a substrate;

forming an active region on the first mirror;

forming a second mirror on the active region;

forming a first dielectric layer on the second mirror;

forming a trench along a perimeter of a first area defining the laser device;

forming an aperture within the perimeter of the first area, with an ion implantation in a portion of the second mirror;

forming a second dielectric on the first dielectric and in the trench;

etching the first and second dielectric layers from a second area on the second mirror;

forming a first layer of electrical contact material on the second area on the second mirror; and

forming a second layer of electrical contact material bridging the trench and having electrical contact

with the first layer of electrical contact material.

18. The method of claim 17, further comprising forming a third layer of electrical contact material on a back-side of the substrate.

19. The method of claim 18, wherein the aperture is a current confining aperture.

20. The method of claim 17, further comprising:

thinning the substrate by removing material form a backside of the substrate; and

forming a third layer of electrical contact material on a back-side of the substrate.

21. A method for making a laser device, comprising:

forming a first mirror on a front-side of a substrate;

forming an active region on the first mirror;

forming a second mirror on the active region;

forming a first dielectric layer on the second mirror;

forming a trench along a perimeter of a first area defining the laser device;

forming an aperture within the perimeter of the first area, with an ion implantation in a portion of the second mirror;

forming a second dielectric on the first dielectric and in the trench;

etching the first and second dielectric layers from a second area on the second mirror;

forming a first layer of electrical contact material on the second area on the second mirror; and

forming a second layer of electrical contact material bridging the trench and having electrical contact with the first layer of electrical contact material;

etching a portion of the first and second dielectric layers, the second mirror and active region to expose a third area on the intra-cavity contact layer; and

forming a third layer of contact material on the third area of the intra-cavity contact layer.

22. The method of claim 21, wherein the aperture is a current confining aperture.

23. A method for making a vertical cavity surface emitting laser comprising:

depositing an oxide layer on a structure comprising:

a first mirror;

an active region on the first mirror; and

a second mirror on the active region; and

wherein:

the oxide layer is on the second mirror; and

the second mirror has at least one oxidizable layer;

placing a first mask having a trench pattern on the oxide layer;

etching the oxide layer and the second mirror to form a trench;

removing the first mask;

partially oxidizing the at least one oxidizable layer to form a first aperture in the second mirror;

placing a second mask, having a pattern for implanting, on the oxide layer;

implanting a portion of the second mirror;

removing the second mask;

depositing a nitride layer on the oxide layer;

depositing a second oxide layer on the nitride layer;

placing a third mask having an aperture pattern on the second oxide layer;

etching the second oxide layer and the nitride layer in a form of the aperture;

removing the third mask;

placing a fourth mask having a contact pattern on the second oxide layer and the first oxide layer;

etching an area of the first oxide layer for a contact;

depositing a metal layer on the fourth mask and the area etched for the area; and

removing the fourth mask with the metal on the fourth mask.

24. A process for making a light emitting device comprising:

forming a first mirror on a substrate;

forming a contact layer on the first mirror;

forming an active region on the contact layer;

forming a second mirror having at least one oxidizable layer on the active region;

forming a first oxide layer on the second mirror;

masking the first oxide layer;

etching a trench through the first oxide layer;

etching a trench into the second mirror;

removing the masking from the first oxide layer;

providing wet oxidation through the trench to oxidize a portion of the oxidation layer of the second mirror to form a first aperture;

masking a portion of the first oxide layer;

implanting ions into the second mirror and through at least a portion of the trench into the active region and the first mirror;

removing the masking from the portion of the oxide layer;

forming a passivation layer on the oxide layer, and surfaces of the trench;

forming a second oxide layer on the passivation layer;

masking the trench and a portion of the second oxide layer proximate to the trench;

etching the unmasked portion of the second oxide layer and passivation layer from the first oxide layer;

removing the masking from the trenches and the portion of the second oxide layer proximate to the trench;

masking the second oxide layer and a center portion of the exposed first oxide layer;

etching the unmasked portion of the exposed first oxide layer down to a top layer of the second mirror;

forming a first metal layer on the exposed portion of the top layer of the second mirror;

removing the masking from the second oxide layer and the center portion of the first oxide layer;

annealing the metal layer;

masking the trench and area within the metal layer;

forming a second metal layer on the masking and exposed portions of the second and first oxide layers;

masking portions of the second metal layer;

forming a third metal layer on exposed portions of the second metal layer;

removing the masking from portions of the second metal layer;

removing exposed portions of the second metal layer;

removing the masking from the trench and the area within the metal layer;

masking a whole area except a portion of the second oxide layer adjacent to a portion of the trench;

removing the unmasked portion of the second oxide layer and nitride layer, the first oxide layer, the second mirror and the active region under that unmasked portion;

undercutting below the first oxide layer a portion of the second mirror and active region;

forming a fourth metal layer on a portion of the contact layer;

removing the masking from the whole area; and

annealing the fourth metal layer.